

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 37-41 and 72-82 are pending in the application. Claims 37, 72 and 78 are independent claims.

Interview Summary

The Applicant appreciates that the Examiner Aaron Sanders allocated time to speak to the Applicant's representative on May 23, 2007. The interview of May 23, 2007 was conducted over the telephone.

During the telephone interview on the aforementioned date, the claim objections and the rejection under §112, first paragraph were discussed in detail. The Examiner confirmed that the amendments herein will likely overcome the claim objections and the rejection under § 112, first paragraph.

The 35 U.S.C. § 102(e) rejection of claims 37-41, and 72-82 in view of U.S. Patent No. 6,584,464 to Warthen et al. (hereinafter "Warthen") was also discussed during the interview. The Applicant's representative asked the Examiner to reconsider the applicability of the Warthen patent in view of the claim amendments presented in this Response. Regarding amended claims 72 and 78, the Examiner indicated additional consideration and/or search might be required to before determining the allowability of the claims. Regarding claim 37, the Applicant's representative argued that the Warthen patent does not disclose or suggest the use of "a log database to determine a relevance of previously stored frequently asked questions to the query." In response, the Examiner indicated that the Warthen patent needs to be reevaluated to determine if the rejection of claim 37 can be sustained.

After discussing the claims of the Application and the Warthen patent, the Examiner agreed that she would carefully reconsider the art grounds rejection of Record upon receiving this Response and reviewing the claims as amended. If the reconsideration indicates that the art grounds rejection of Record is unsustainable, the Applicant understands that the Examiner would need to conduct an updated search before determining the Allowability of the instant Application.

Claim Objections

Claims 37 and 78 stand objected to due to minor informalities. Claims 37 and 78 are amended to cure the informalities. Applicant does not intend to surrender any subject matter by these amendments.

Claim Rejections Under §112, First Paragraph

Claim 78 stands rejected under 35 U.S.C §112, first paragraph, for failing to comply with the written description requirement. Applicant respectfully traverses the rejection.

As suggested by the Office, claim 78 has been amended to replace the word “module” following “keyword” with the word “parser.” Applicant respectfully submits that the claim amendment removes the rejection under 35 U.S.C §112, first paragraph. Accordingly, the Office is respectfully requested to withdraw the rejection.

Claim Rejections Under § 102

Claims 37-41, and 72-82 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,584,464 to Warthen et al. (hereinafter “Warthen”). Applicant respectfully traverses the rejection.

Independent claim 37 recites a method comprising:

receiving a query;
mapping the query from a query space to a question space to identify associated frequently asked questions, the mapping comprises:
analyzing a log database to determine a relevance of previously stored frequently asked questions to the query; and
ascertaining from the previously stored frequently asked questions the associated frequently asked questions based on the determined relevance;
mapping the associated frequently asked questions from the question space to a template space to identify associated templates;
mapping the templates from the template space to an answer space to identify associated answers; and
returning the answers in response to the query. (Emphasis added.)

Warthen provides for a method of returning answers to a query posed by a user. (*Warthen*, cols 1- 2, summary.) An information server receives a query from a user. (*Warthen*, col 1, summary.) The query is tokenized into a list of words, and a parser generates a syntactic structure from a list of words. (*Warthen*, col 2, summary; col 5, lines 26-44.) Specifically, the parser identifies a set of possible syntactic structures that could represent the questions being asked. (*Warthen*, col 5, lines 35-40.) The syntactic structures are reformed into canonical forms by replacing the synonyms with a canonical term. (*Warthen*, col 5, lines 45-47.) The normalized structure is matched against a semantic net to obtain a list of answers. (*Warthen*, col 5, line 57 to col 6, line 4.)

The Office maintains the method of identifying questions that pertain to a query and returning answers, described by Warthen, uses the act of “analyzing a log database to determine a relevance of previously stored frequently asked questions to the query.” Applicant does not agree with the Office’s interpretation of Warthen for the following reasons.

An information server 50 described by Warthen receives a user’s query. The query is logged to a log file 20. Warthen describes that the query logged to the log file 20 is “for use in further refining information server 50.” (*Warthen*, col 4, lines 36-41.) How and when this refinement takes place is not explicitly discussed in the Warthen patent. Nonetheless, Warthen does not disclose that the queries in the log file 20 are “previously stored frequently asked questions.” And even if Warthen were to store frequently asked questions in the log file 20, the patent does not disclose the use of information stored in the log file 20 to “determine a relevance of previously stored frequently asked questions to the query.”

At column 4, lines 49-56 Warthen describes exactly what is done with an initial query after it is received. The excerpt from lines 49-56 is provided for the convenience of the Office.

QPE 30 processes the question to identify *a set of template questions*. Template questions are questions in a form that allows its context to be easily understood from the question, either because information server 50 has *already answered the question to the liking of one or more users*, or because an information analyst has input a question-answer template for that question. A question-answer template is a data structure that codes for one or more questions and includes pointers to answers to the coded question.

Warthen does not describe or suggest that the identified set of template questions are “stored frequently asked questions.” The Warthen patent merely states that the

template questions are used because they are in a form that make the context of the question (i.e., a query) easy to understand. Warthen also states that the context questions may be identified because they have already been answered to the liking of one or more users. The fact that the context questions may have been saved because they were already answered correctly does not indicate they are “stored frequently asked questions.”

In accordance with the above, Warthen does not disclose at least the above discussed elements of claim 37. Since Warthen does not disclose the above elements, the patent cannot be said to anticipate the independent claim. Therefore, Applicant respectfully requests that the §102(e) rejections be withdrawn.

Dependent claims 38-41 depend from claim 37 and rejections with regard to these claims should be withdrawn by virtue of the dependency. Moreover, these claims recite features that, when taken together with those of claim 37, are not disclosed by Warthen.

Independent Claim 72 (as amended) recites a method of parsing a search query comprising:

segmenting the search query into individual character strings, wherein at least one of the individual character strings comprises a single character;

producing a parse tree from at least one parsable character string of the search query; and

generating at least one keyword based at least on one non-parsable character string of the search query,

wherein the parse tree and the keyword are used to return answers to the search query. (Emphasis added.)

In Warthen, a tokenizer converts an initial user query into a list of words and provides these words to the parser. (*Warthen*, col 5, lines 27-29). Warthen discloses that one structure for conversion is an augmented transition network.

(*Warthen*, col 5, lines 30-31). Another approach to tokenizing in Warthen is to scan the initial user query and group words into conceptual strings, removing plurals and suffixes. (*Warthen*, col 5, lines 31-33). In claim 2, Warthen further states that the user's query is a text string comprising a sequence of one or more tokens, wherein a token is one or more words that have meaning together. (*Warthen*, col 6, lines 48-52). While Warthen contemplates segmenting the user query into individual words, the patent does not disclose segmenting the query so that *"at least one of the individual character strings comprises a single character."*

Warthen proceeds on the assumption that the query contains discrete words such that the query may be segmented into a group of words. However, in some languages, such as Chinese, words are not separated by means of a space but are represented as a combination of characters. Further, variations in combinations of the same characters may lead to different words being generated. Therefore, the segmentation in such cases needs to be at the level of the individual characters to ascertain the user's intention. Consequently, the parsing and keyword generation also need to be based on either the individual characters or combined characters. As Warthen does neither segment the search query into individual characters nor base parsing or keyword generation on such individual or combined characters, Warthen does not disclose either *"segmenting the search query into individual character strings, wherein at least one of the individual character strings comprises a single character."*

Since Warthen does not disclose at least the above discussed element of the rejected claim, the patent cannot be said to anticipate the independent claim 72.

Therefore, Applicant respectfully requests that the §102(e) rejections be withdrawn.

Dependent claims 73-77 depend from claim 72 and rejections with regard to these claims be withdrawn by virtue of the dependency. Moreover, these claims recite features that, when taken together with those of claim 72, are not disclosed by Warthen.

Independent claim 78 (as amended) recites a parser for a search engine, comprising:

a segmentation module that segments a search query into one or more individual character strings, wherein at least one of the one or more individual character strings comprises a single character;

a natural language parser module that produces a parse tree from one or more parsable character strings of the search query; and

a keyword parser to identify one or more keywords in the search query and to output the keyword,

wherein the parse tree and the one or more keywords are used to return answers to the search query. (Emphasis added.)

As discussed above in connect with the rejection of claim 72, Warthen does not disclose segmenting the search query into individual character strings, where at least one of the individual character strings includes a single character. Hence, Warthen does not disclose “*a segmentation module that segments a search query into one or more individual character strings, wherein at least one of the one or more individual character strings comprises a single character.*”

Since Warthen does not disclose at least the above discussed element of the rejected claim, the patent cannot be said to anticipate the independent claim 78. Therefore, Applicant respectfully requests that the §102(e) rejections be withdrawn.

Dependent claims 79-82 depend from claim 78 and rejections with regard to these claims be withdrawn by virtue of the dependency. Moreover, these claims recite features that, when taken together with those of claim 78, are not disclosed by Warthen.

Conclusion

In accordance with the foregoing remarks, Applicant believes that the pending claims are allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the Applicant at the telephone number provided below.

Respectfully Submitted,

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